

Navy Personnel Research and Development Center

San Diego, California 92152-7250

AP-95-2

September 1995



Command History Calendar Year 1994



DTIC QUALITY INSPECTED 8

19951005 001

Approved for public release; distribution is unlimited.

**Command History
Calendar Year 1994**

Reviewed and approved by
Norma Zaske

Released by
Patricia M. Spishock
Captain, U.S. Navy
Commanding Officer
and
Murray W. Rowe
Technical Director

Approved for public release;
distribution is unlimited.

Navy Personnel Research and Development Center
San Diego, CA 92152-7250

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE September 1995		3. REPORT TYPE AND DATE COVERED Historical—Jan 94-Dec 94	
4. TITLE AND SUBTITLE Command History—Calendar Year 1994				5. FUNDING NUMBERS Center overhead	
6. AUTHOR(S)					
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Navy Personnel Research and Development Center 53335 Ryne Road San Diego, CA 92152-7250				8. PERFORMING ORGANIZATION REPORT NUMBER NPRDC-AP-95-2	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) Navy Personnel Research and Development Center 53335 Ryne Road San Diego, CA 92152-7250				10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES Functional Area: Manpower, Personnel, Training, Organizational Systems Product Line: N/A Effort: N/A					
12a. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution is unlimited.				12b. DISTRIBUTION CODE A	
13. ABSTRACT (Maximum 200 words) This report reflects the Navy Personnel Research and Development Center's 1994 operating philosophy, Commanding Officer and Technical Director biographies, history, organization, center resources, research and development program, Commanding Officer and Technical Director awards, and publications and presentations.					
14. SUBJECT TERMS Command history, manpower, personnel, training, organizational systems				15. NUMBER OF PAGES 33	
				16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT UNCLASSIFIED	18. SECURITY CLASSIFICATION OF THIS PAGE UNCLASSIFIED	19. SECURITY CLASSIFICATION OF ABSTRACT UNCLASSIFIED	20. LIMITATION OF ABSTRACT UNLIMITED		

Contents

Introduction	1
Operating Philosophy	1
Change of Command	3
Commanding Officer's Biography	3
Technical Director's Biography	4
Historical Chronology	5
Organization	7
Mission	7
Philosophy	7
Vision	7
Goals	8
Functions	9
Center Resources	11
Funding	11
Personnel	13
Facilities	13
Research and Development Program	14
Manpower	14
Personnel	14
Training	15
Organizational Systems	15
Fleet Liaison Office	16
Award Winning Technical Accomplishments	17
Publications and Presentations	19
Professional Publications Award	19
Technical Reports	19

<input checked="checked" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	11/11/00 11/11/00 11/11/00
--	----------------------------------

11/11/00
 11/11/00
 11/11/00

Technical Notes	20
Administrative Publications	22
Books and Book Chapters	22
Journal Articles	23
Presentations	24
Distribution List	27

List of Figures

1. NAVPERSRANDCEN organization.....	2
2. 1993 reporting relationships (Department of the Navy Research, Development, Testing, and Evaluation Organization)	3
3. Distribution of funds (\$29.4M, 30 September 1994).....	11
4. Funding by source and appropriation (\$29.4M, 30 September 1994).....	12

Introduction

The Navy Personnel Research and Development Center (NAVPERSRANDCEN) Command History for CY94 is submitted per OPNAVINST 5750.12. The history provides a permanent record of CY94 activities.

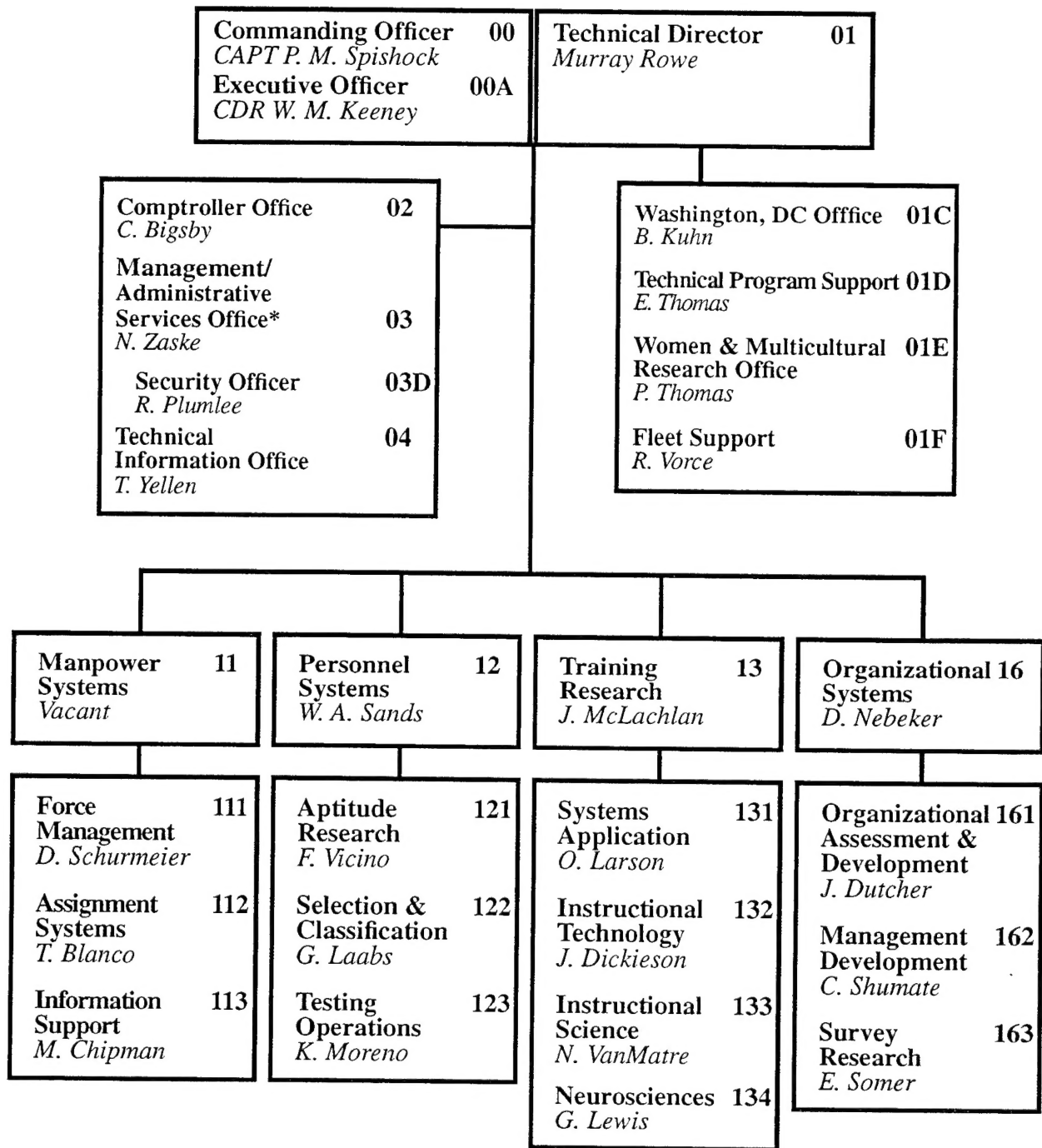
Operating Philosophy

NAVPERSRANDCEN is an applied research center, contributing to the personnel readiness of the Navy and Marine Corps. The Center develops better ways to attract qualified people to the naval services to: select the best, assign them where they are most needed, train each one effectively and efficiently, and manage our personnel resources optimally. By combining a deep understanding of operational requirements with first-rate scientific and technical abilities, the Center is unique in being able to develop new, useful knowledge and refine technology to address people-related issues. This dual expertise permits the Center to develop the technology base for improving the use of human resources within Navy systems and to apply state-of-the-art technology to solve emerging problems. The organizational structure of NAVPERSRANDCEN is represented in Figure 1. As a corporate asset, NAVPERSRANDCEN is responsive to the needs of manpower, personnel, and training managers in the Navy, Marine Corps, and Department of Defense (DOD); to the operating forces; and to the shore establishment that trains and supports the fleet.

The research and development (R&D) methods used by NAVPERSRANDCEN are derived from behavioral, cognitive, economic, and social sciences, as well as from applied mathematics, statistics and computer science. The application of these methods results in tangible products of use to the Navy and Marine Corps. NAVPERSRANDCEN constantly searches for technological opportunities to improve personnel readiness and to reduce manpower costs. We are accountable to the Chief of Naval Personnel (CHNAVPERS), our sponsors, and our users for high productivity, strict ethics, honesty, integrity, professionalism, and perspective. The Center's reporting relationship is depicted in Figure 2.

As part of its operating philosophy, NAVPERSRANDCEN seeks to do as much of its work as possible in operational settings where the final products of our efforts are intended to be used. This helps to ensure that the needs and requirements of the users are met and that the users themselves become familiar with the operational capabilities of the particular products. In some cases, because of the close researcher and user interaction, interim or prototype products have been put into use before the final product has been completed.

Further interactions with operational commands involve a variety of manpower, personnel, and training (MPT) databases that NAVPERSRANDCEN has developed and maintained. Because NAVPERSRANDCEN is an in-house, corporate laboratory, these databases are readily available to support many different operational users and requirements.



*Human Resources and EEO functions are provided by NISE West.

Figure 1. NAVPERSRANDCEN organization.

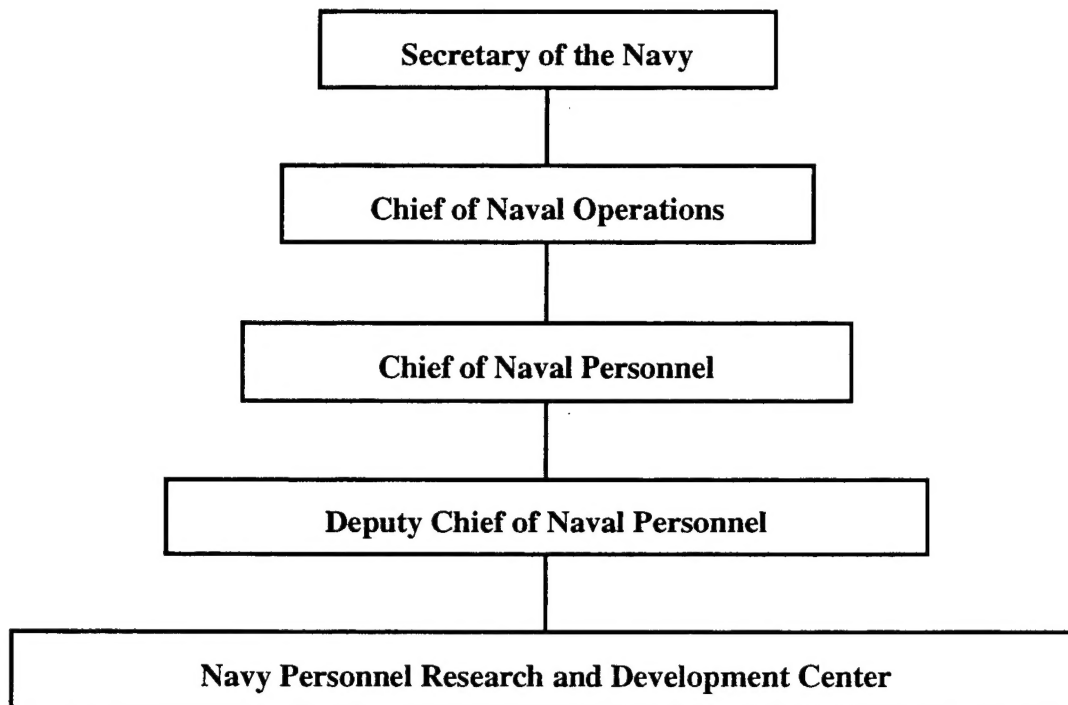


Figure 2. 1994 reporting relationships (Department of the Navy Research, Development, Test, and Evaluation Organization).

Change of Command

On 5 October 1994, Captain John D. McAfee, USN, was relieved by Captain Patricia M. Spishock, USN, as Commanding Officer of Navy Personnel Research and Development Center.

Commanding Officer's Biography

Captain Patricia M. Spishock is a New Jersey native and 1970 graduate of Douglass College of Rutgers University. She was commissioned at Women Officer's School in Newport, RI in 1973. Her first assignment was Training Officer, Naval Training Center, Bainbridge, MD. Following this tour, she was assigned to Naval Facility, Bermuda, where she was an Oceanographic System Watch Officer and then Administrative Officer.

In 1976, Captain Spishock was transferred to San Diego as a staff officer and analyst at Naval Ocean Systems Center working in Antisubmarine Warfare Systems; and then she was assigned as a staff officer at Navy Personnel Research and Development Center working on personnel and training research. During that time, she obtained a Master of Science Degree in Systems Management with an emphasis in research and development from the University of Southern California.

Captain Spishock's first Washington, DC tour was with the Chief of Naval Operations (OP-13) as an analyst of enlisted accession programs, including the Navy's recruiting and advertising budget. From there, she again moved west to serve as Executive Officer, Navy Recruiting District, Seattle, Washington. Upon completion of her XO tour, she returned to Washington, DC to become a detailee for General Unrestricted Line (now Fleet Support) Officer Community.

In 1990, CAPT Spishock assumed command of Naval Technical Training Center, Treasure Island, a training facility supporting primarily the damage control and underway replenishment missions of the surface fleet. Upon completion of this tour, she was assigned as the Assistant Chief of Staff for Base Operations, Naval Training Center (NTC), San Diego. CAPT Spishock assumed command as the last Commanding Officer of Recruit Training Command (RTC), San Diego in October 1993 and returned to her duties at NTC upon its disestablishment in March 1994. In October of 1994, Captain Spishock returned as Commanding Officer for a second tour at Navy Personnel Research and Development Center.

CAPT Spishock is a subspecialist in three areas: Manpower, Personnel, and Training Analysis; Operations Analysis; and Education and Training Management. She has been awarded the Legion of Merit, Meritorious Service Medal, the Navy Commendation Medal (3 awards), Meritorious Unit Commendation with bronze star, the National Defense Service Medal with bronze star, the Overseas Service Ribbon, and the Navy Recruiting Ribbon.

Technical Director's Biography

Mr. Murray W. Rowe is the Technical Director of the Navy Personnel Research and Development Center. He came to NAVPERSRANDCEN as a research economist in 1976. From 1978 to 1989, Mr. Rowe headed the Center's Force Management Division. In 1989, he became the Director of the Manpower Systems Research Department. In 1988-89, Mr. Rowe served a six month tour as Science Advisor to the Chief of Naval Personnel, ADM J. M. Boorda.

Mr. Rowe has extensive research experience in personnel force management modeling and information system development for customers in Bureau of Naval Personnel; the Navy Recruiting Command; Headquarters, U.S. Marine Corps; and the Office of the Secretary of Defense.

Mr. Rowe received his Bachelor of Arts Degree in economics and mathematics from the University of Kentucky in 1973 and a Master of Arts Degree in economics from the University of Maryland in 1975. He was elected to Phi Beta Kappa in 1972. In 1991, Mr. Rowe was awarded the Navy Civilian Meritorious Service Medal.

Mr. Rowe and his wife, Lee, have two sons.

Historical Chronology

- 1 July 1951 The Naval Personnel Research Unit, San Diego, CA was established under the Bureau of Naval Personnel (BUPERS) to provide a personnel research facility close to the operating forces.
- 1 July 1952 The U.S. Naval Personnel Research Field Activity was established in Washington, DC to provide an activity close to Navy users and systems.
- 26 May 1961 SECNAV Notice 5450 redesignated the two field activities as U.S. Naval Personnel Research Activities.
- 10 December 1968 OPNAV Notice 5450 redesignated the Naval Personnel Research Activity, Washington, DC as the Naval Personnel Research and Development Laboratory due to increased emphasis on R&D.
- 1 August 1969 The Chief of Naval Operations (CNO) redesignated the Naval Personnel Research Activity, San Diego, CA, as the Naval Personnel and Training Research Laboratory.
- 1 May 1973 The Secretary of the Navy approved the establishment of NAVPERSRANDCEN, San Diego, CA to provide a corporate personnel laboratory with an in-depth capability in the behavioral and management sciences. This action consolidated those research functions assigned to the Naval Personnel Research and Development Laboratory, the Naval Personnel and Training Research Laboratory, and the Personnel Research Division of BUPERS.
- 17 May 1975 OPNAV Notice 5450 changed command and support responsibility for NAVPERSRANDCEN from the CHNAVPERS to the Chief of Naval Material (CNM).
- 22 May 1980 NAVMATINST 5450.27B modified the mission statement to include technical and consultant support and services to CNO in the design, development, and operation of the Navy personnel system.
- 1 October 1980 The Commanding Officer, NAVPERSRANDCEN, directed to report for additional duty to Deputy CNO (Manpower, Personnel, and Training) (OP-01).
- 6 May 1985 The disestablishment of CNM changed command and support responsibility for NAVPERSRANDCEN from CNM to Chief of Naval Research (CNR).
- 24 February 1986 The Secretary of the Navy changed command and support responsibility for NAVPERSRANDCEN from CNR to Space and Naval Warfare Systems Command (SPAWARSSYSCOM).
- 27 March 1988 Management control of NAVPERSRANDCEN was transferred from SPAWARSSYSCOM to CNP/Commander, Naval Military Personnel Command (NMPC). NMPC was charged with direct management of NAVPERSRANDCEN.
- 12 September 1991 OPNAV Notice 5450 disestablished NMPC and delegated direct management of NAVPERSRANDCEN to BUPERS.

25 September 1991 OPNAV Notice 5450 modified NAVPERSRANDCEN's mission to conduct research and development to improve the performance of individuals, teams, and organizations within the Navy and Marine Corps; to provide products and services specifically directed at improving Department of the Navy personnel planning, testing, acquisition, selection, classification, training, utilization, motivation, organization, management, and other contemporary issues; and to perform other functions as directed by higher authority.

Organization

Mission

To conduct research and development to improve the performance of individuals, teams, and organizations within the Navy and Marine Corps. To provide products and services specifically directed at improving Department of the Navy personnel planning, testing, acquisition, selection, classification, training, utilization, motivation, organization, management, and other contemporary issues.

Philosophy

We believe people are the most valuable resource of the Navy and Marine Corps. People have the unique capability to take action based on objectives and values in rapidly changing environments. We believe, therefore, that improving the ability of people to perform their assigned tasks is necessary to maximize the effectiveness of weapon systems. Moreover, we believe our efforts will improve the quality of service life and the effectiveness of MPT, and organizational systems and result in a more effective naval force.

Vision

For the Navy and the Marine Corps, the current decade will be the beginning of an era of new missions, changing force structure, and shifting priorities. Each Service will prepare itself to be ready at all times to conduct a large number of varied operations in potentially hostile environments. New capabilities and technologies will be developed to meet the challenges of these new responsibilities and threats. Of critical importance will be the continuing need to attract and retain a professional personnel force of the very brightest and most capable young people in the nation.

Through this period and beyond, we see NAVPERSRANDCEN continuing to grow in leadership and influence as the Navy and the Marine Corps' principal center for MPT and organizational systems R&D. We will be recognized for our innovation, initiative, the teamwork of our people, and our ability to anticipate and effectively respond to change.

Our principal value will continue to be in the products and services we provide. As an integral part of the Navy and Marine Corps family, we are motivated and able to seek out and solve the most important Navy and Marine Corps problems within our mission area. We are committed to developing close working relationships with our sponsors and customers and to meeting their needs in a timely, cost-efficient, scientifically valid manner.

Our major strength will continue to be our staff whose talents cover a broad range of technical disciplines. We are proud of the research scientists who, along with members of the support staff, contribute so much to enhancing the Center's reputation within the operational and scientific communities. We will build on this strength by developing and expanding the skills of the present

staff and hiring new individuals as needed to respond effectively to a wide variety of Navy and Marine Corps problems and opportunities.

As an R&D activity, we will continue to fulfill our responsibility to identify and test the applicability of current and emerging scientific technologies to the solution of Navy and Marine Corps MPT and organization systems problems. We will strive to maintain our recognized expertise in the core technologies associated with manpower modeling; ability, interest, and attitude measurement; instructional design; organizational evaluation; and quality management. At the same time, we will develop new technologies in these areas.

In pursuing this vision, we will strive for continuous improvement in the quality of our internal operations and in the products and services we provide. We will establish meaningful, measurable goals and procedures for assessing progress in attaining them. We will recognize and reward the contributions of our staff. We will remain open to change and flexible in setting future directions and strategies. We are confident that these actions, in total, will assure our continued role in helping to build a stronger and more effective Navy and Marine Corps.

Goals

1. Design and develop MPT and organizational systems products and services that significantly enhance the ability of the Navy and Marine Corps to carry out their missions.
2. Attract, develop, and retain talented and motivated personnel through Center policies and practices that foster and reward proactive behavior, teamwork, communication, trust, risk taking, and innovation.
3. Conduct a technology base program (i.e., basic research, exploratory development, and advanced technology demonstrations) to meet Navy and Marine Corps personnel and operational requirements and to maintain scientific and technical leadership in MPT and organizational systems areas.
4. Maintain in-house scientific expertise and corporate knowledge to ensure technological innovation, "smart buyer" assistance, and real-world understanding of MPT and organizational systems requirements.
5. Anticipate future needs of NAVPERSRANDCEN sponsors and customers and meet them through use of appropriate technology, prioritization of R&D requirements, and by facilitating transitions of products into operational use.
6. Seek continuous improvement in the quality of NAVPERSRANDCEN products and services, and the way they are applied to naval systems.

Functions

1. Plan and develop effective MPT products and services for Navy and Marine Corps operational application. Provide technical assistance to support the transition and implementation of Center products.

2. Develop and maintain in-house Navy and Marine Corps scientific and technical expertise to provide corporate knowledge, corporate memory, technological innovation, "smart buyer" assistance, and real-world understanding necessary for the development and support of Navy and Marine Corps MPT.

3. Plan and conduct an effective technology base program (basic research, exploratory development, and advanced technology demonstrations) to meet existing and projected operational requirements and to maintain scientific and technical leadership in MPT.

4. Develop new systems and methods for determining manpower requirements, allocating manpower resources, developing personnel inventories, and distributing and assigning those inventories to improve military readiness and control costs.

5. Develop new systems and procedures for recruiting, selecting, classifying, and utilizing officer, enlisted, and civilian personnel to improve performance, satisfaction, and retention.

6. Serve as the CHNAVPERS primary resource to coordinate and conduct personnel surveys in the Navy and to develop new survey methodology for the Navy and Marine Corps.

7. Develop and evaluate personnel testing systems, and Computerized Adaptive Testing for Armed Services Vocational Aptitude Battery (CAT-ASVAB). Serve as Lead DOD R&D laboratory for overall management of CAT research, development, implementation, and scientific support of the system.

8. Develop training technologies to enhance personnel readiness.

9. Employ existing and emerging technologies in the development and application of training systems to alleviate Navy and Marine Corps training problems and improve the Navy's operational readiness.

10. Develop and evaluate innovative management and leadership systems for improving the effectiveness and readiness of Navy and Marine Corps personnel and organizations.

11. Develop and evaluate innovative motivation and reward systems for improving the efficiency and effectiveness of Navy and Marine Corps personnel and organizations.

12. Develop, evaluate, and apply innovative personnel assessment technology.

13. Provide independent analyses, technical advice, and consultation to research, development, test, and evaluation (RDT&E) and operational managers in matters related to the Center's mission.

14. Investigate, define, and address operational problems related to fleet personnel performance.
15. Maintain a field office in Washington, DC for the purpose of conducting on-site projects.
16. Develop, install, and provide life-cycle support for information management systems.
17. Provide information and reports to higher authority and the scientific community on the progress and accomplishments of the Center's program.
18. Provide technical support in the development of the CHNAVPERS' long range plan with regard to the infusion of appropriate technology, definition, and prioritization of RDT&E requirements and the transition of products into operational use.
19. Provide information and technical support to the Center's BUPERS Program Manager in all matters related to the Center's operation.
20. Develop and maintain liaison with Navy, DOD, and civilian RDT&E organizations for the exchange of information and the establishment of cooperative efforts in MPT and organizational systems areas.

Center Resources

Funding

NAVPERSRANDCEN operates under the RDT&E Resources Management System. Under this system, the final fiscal responsibility resides with the Commanding Officer and certain financial responsibilities are delegated to cost center managers. The reporting procedures associated with the Resources Management System provide financial information for both internal management and higher authority.

The principal mission sponsor and prime "customer" for Center RDT&E products is BUPERS. Significant sponsorship also comes from the CNR, the Marine Corps, and other Navy and DOD organizations including the Systems Commands. The majority of RDT&E that the Center conducts is supported by directly funded projects. A small portion of the funds are independent research and independent exploratory development. In addition, a substantial portion of research, development, and analysis consists of "reimbursables," specific problem solving efforts requested by, and supported with, funding from other organizations.

NAVPERSRANDCEN's funding at the end of FY94 was \$29.4 million. Distribution, source, and appropriation of funds are shown in Figures 3 and 4.

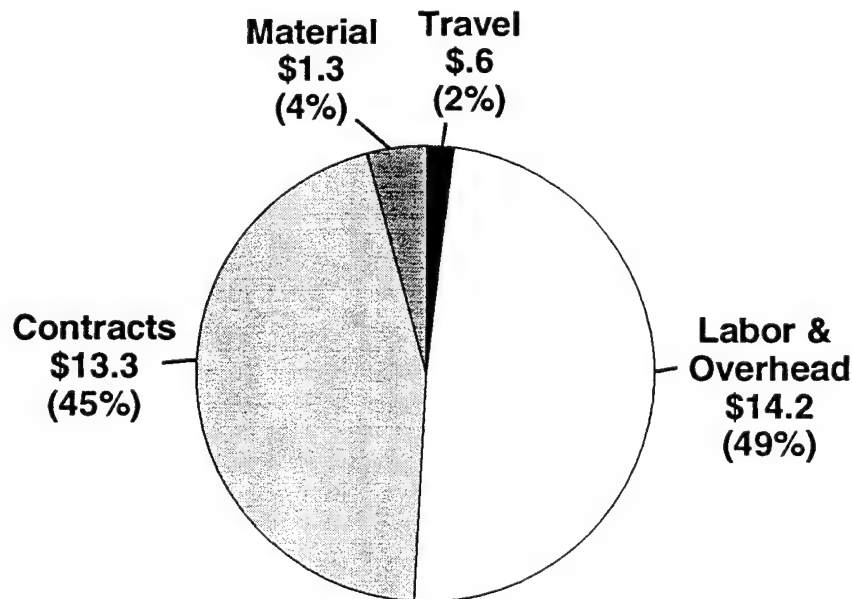


Figure 3. Distribution of funds (\$29.4 M, 30 September 1994).

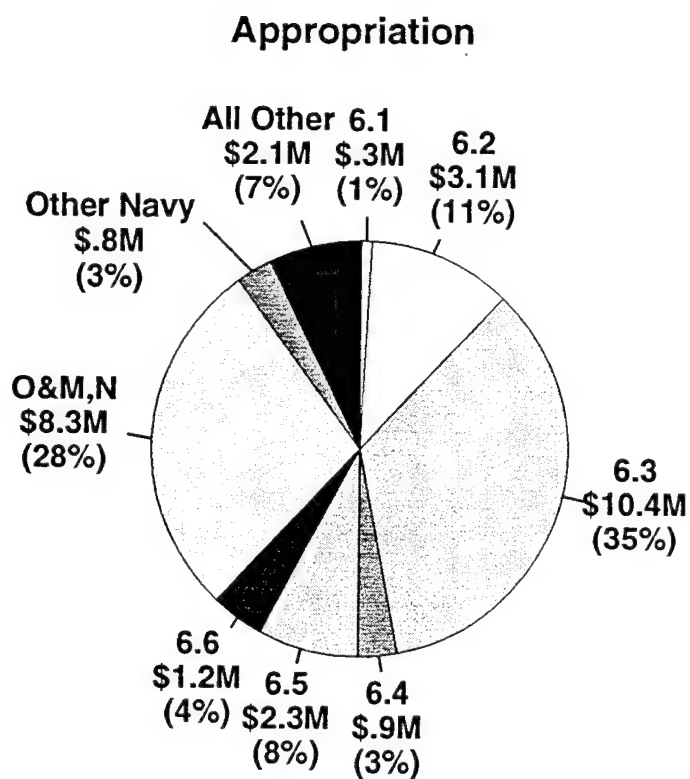
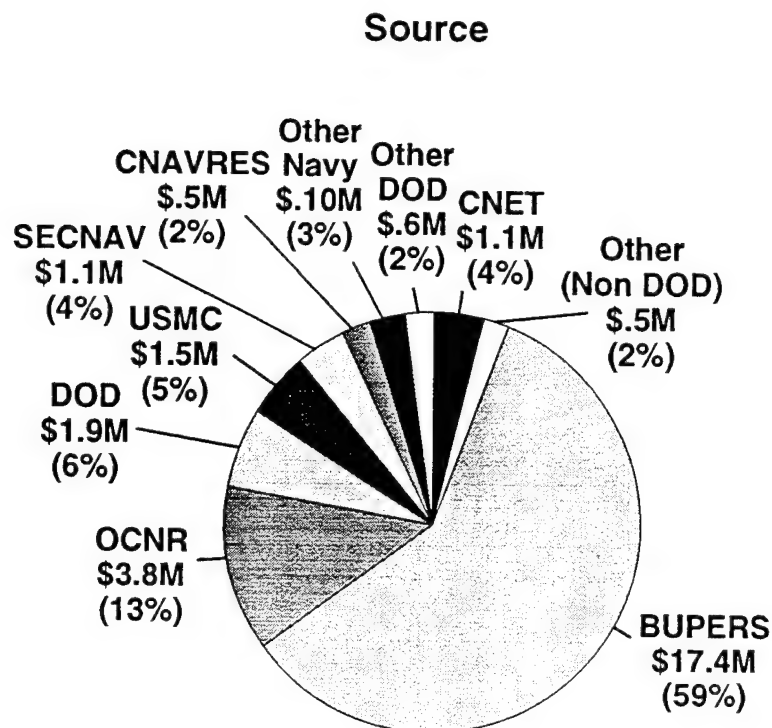


Figure 4. Funding by source and appropriation (\$29.4 M, 30 September 1994).

Personnel

Because R&D programs at NAVPERSRANDCEN are mission-oriented, it is essential that the research force be multidisciplinary so that early consideration may be given to alternative approaches in research endeavors. The Center's staff is creatively diverse and equipped to meet this prerequisite.

As of 30 September 1994, the staff numbered 154 civilian personnel, reduced from 228 primarily by a self-imposed Reduction-in-Force. Of the civilians, 129 are professional and technical personnel representing a variety of disciplines. Of the professional and technical staff, 64% hold advanced degrees. The military staff numbered 17, consisting of line officers and senior enlisted personnel. The military personnel offer extensive fleet and subject-matter expertise that helps ensure the operational relevance of NAVPERSRANDCEN's R&D endeavors. This broad personnel base allows NAVPERSRANDCEN to maintain a highly effective, multidisciplinary team approach to its R&D.

Facilities

NAVPERSRANDCEN is located on Point Loma in San Diego, CA, with support offices in Washington, DC. The Center occupies 16 buildings under a host-tenant arrangement with the Naval Command, Control and Ocean Surveillance Center, Research, Development, Test, and Evaluation Division (NCCOSC RDTE DIV). In addition to office space for research and support personnel, the following research facilities are housed at the Center:

- **Training Research Computing Facility (TRCF)** provides general Unix-based computing services and access to the Defense Data Network for Center research and support staff. The facility is supported by the Training Research Department and provides computational and electronic mail support for research in areas of artificial intelligence, computer-assisted instruction, cognitive science, testing, and training. The TRCF equipment suite includes file servers and numerous peripherals.
- **Manpower and Personnel Computing Facility (MAPCOM)** provides general purpose IBM-based computing services for Center researchers and administrative operations. The facility is supported by the Manpower Systems Department. It is specially equipped to serve psychologists, economists, mathematicians, and computer scientists whose research requires the organization and analysis of large data files, the development of large-scale mathematical models, the design of information delivery systems, and general-purpose scientific computing. The MAPCOM features an IBM 4381/92E, multiple tape drives, and over 74G in disk storage.
- **Systems Simulation Facility** serves cognitive and organizational psychologists who are concerned with the measurement of human performance, neuroscience applications in personnel readiness assessment, and motivation of people in organizations. It includes equipment for biopsychological and psychophysiological measurement.

Research and Development Program

The R&D program at NAVPERSRANDCEN addresses four functional areas: Manpower, Personnel, Training, and Organizational Systems. Within these four functional areas are 21 product lines, each of which has one or more projects.

Manpower

Develops new computer-based systems and methods for allocating manpower resources, developing personnel inventories, and distributing and assigning those personnel to improve military readiness and control costs.

- **Navy Force Management**—Designs and develops large-scale decision-support systems for managing the flow of personnel (accession, retention, promotion) to attain desired skill inventories within constraints of cost and feasibility, allocating manpower resources, and developing and executing manpower appropriations.
- **USMC Force Management**—Designs and develops systems to develop, evaluate, justify, and effectively execute USMC manpower plans and policies.
- **Assignment Systems**—Designs and develops systems for improving the assignment of officer and enlisted personnel to jobs (billets), given cost constraints, fleet requirements, individual goals, and a wide variety of assignment policies.
- **Recruiting Systems**—Develops market analyses, supply projections, resource management models and systems to support accession policy and recruiting objectives.
- **Training Resources Systems**—Improves fleet readiness and cost-effectiveness of training assets by designing and developing methods for scheduling classes, reserving seats, monitoring bookings, and reallocating school seats.
- **MPT Information Support**—Develops advanced information systems architectures; database storage and retrieval technologies; and user interface designs for MPT applications.

Personnel

Develops and evaluates systems for recruiting, selecting, classifying, and utilizing military personnel to improve performance. Serves as the lead DOD R&D laboratory for the development of a Computerized Adaptive Testing for Armed Services Vocational Aptitude Battery (CAT-ASVAB).

- **Printed Testing**—Establishes and monitors Navy enlistment qualifications and school eligibility standards for the ASVAB. Develops biographical information instruments for use in enlisted personnel screening.

- **Computerized Testing**—Develops CAT-ASVAB as a replacement for the paper-and-pencil version of the battery. Includes development of new computerized ability tests, which can be used to augment the battery.
- **Personnel Classification**—Develops job performance measures for use in validating selection and classification tests. Develops mathematical modeling procedures to assist in establishing recruit quality requirements and person-job matching techniques.
- **Officer Career Management**—Develops and applies new technology to match officer attributes and billeting requirements in a changing environment.
- **Drug Research**—Develops new methods for maximizing drug use deterrence while minimizing drug use detection costs.

Training

Develops new educational and training technologies to reduce formal Navy training costs and to improve Navy training effectiveness.

- **Operational Training**—Develops training programs to support specific operational weapons systems including enhancements to existing programs and application of emerging training technologies to these systems.
- **Schoolhouse Training**—Develops content-specific instructional materials and processes designed to enhance the effectiveness and lessen the cost of the delivery of formal Navy schoolhouse instruction.
- **Neurosciences**—Develops and evaluates technologies to assess and enhance performance and training procedures using neuroscience, neural network, and behavioral approaches. Performs R&D for improved assessment of human capabilities, including sensory and cognitive processing, skill development and retention, real-time monitoring, and on-job performance prediction.
- **Curriculum Acquisition, Development, and Revision**—Develops, tests, and evaluates systems designed to support the development of curriculum materials. These include automated systems designed to support instructor-delivered training materials and systems for computer-delivered training materials.
- **USMC Training**—Develops prototype training programs to support unique Marine Corps applications. These include materials supporting either basic schools or operational units.

Organizational Systems

Develops and evaluates performance enhancement and control systems for improving the effectiveness, quality, and productivity of defense personnel and organizations. Develops

approaches for managing a diverse workforce. Serves as the CNO's primary resource to coordinate and conduct attitude surveys in the Navy and Marine Corps and to develop new survey technology.

- **Management Control Systems**—Performs needs analyses for the purpose of diagnosing problems with existing systems used for cost, quality, production control, and improvement. Determines appropriate enhancements to such systems and provides models for system development. This frequently includes design, development, and evaluation of management training for quality and productivity improvement.
- **Incentive Systems**—Determines feasibility, design, development, test, and evaluation of incentives in Navy organizations. This includes monetary and nonmonetary applications for individual, group, and organization. Nonmonetary types include performance measurement, feedback, goal setting, time off, suggestion systems, employee involvement, and job redesign.
- **Organizational Systems Evaluation**—Includes diagnostics of organizations, their designs, functions, and "climate" or culture. Also includes evaluation of programs that have aimed to change these factors.
- **Survey Research**—Develops systems to improve the quality and timeliness of personnel survey data.
- **Women and Multicultural Research**—Investigates issues associated with a racial-, ethnic-, and gender-mixed active duty and civilian workforce.

Other research efforts include developing and testing innovative methods to design, administer, and evaluate management and professional training. In addition, job aids are developed and tested to determine their effects on workload accomplishment.

Fleet Liaison Office

In addition, NAVPERSRANDCEN has set up a Fleet Liaison Office (FLO) to maintain liaison with Fleet Commands, Type Commands, Systems Commands, CNO Agencies, and R&D Centers in matters related to NAVPERSRANDCEN's mission areas, and serves as the Center's focal point for investigating and responding to requests for technical assistance. It monitors, on a continuing basis, operational problems, requirements, and priorities to determine RDT&E implications, provides on-site consultative services to operational commands, and performs special projects as needed and facilitates the implementation of the Center's R&D products. The FLO serves as the Center's agent for the Navy Science Assistance Program and is closely linked to this program's management, training, and quality assurance.

Award Winning Technical Accomplishments¹

Future Generation Detailer Decision Support System (DSS) Demonstration Test

The Navy developed the *Future Generation Detailer Decision Support System (DSS)* to determine the extent they could improve the current detailing process by providing detailers with up to date integrated computer decision and telephone support. To test these technologies, **Mr. Tom Blanco and Mr. Dave Tyburski** developed a prototype DSS that provided an Integrated Voice Response (IVR) capability working in conjunction with a computerized decision support personal computer workstation. The IVR forwards inquiries not automatically processed to the detailer for personal assistance. When this occurs, the detailer has the constituent's personal information immediately displayed on the DSS workstation. Using the workstation, the detailer can easily query the mainframe Enlisted Assignment Information System database for detailing information through a graphical user interface (GUI) that improves the accuracy and speed of the detailer's queries. To aid the constituent, the detailer can use an on-line policy guidance query capability to search the Enlisted Policy Manual for needed information and to FAX data required by the constituent directly from the workstation.

The Navy conducted a live demonstration test of the prototype DSS within BUPERS with 18 detailers for 8 weeks beginning 24 October 1994. On 19 December 1994, PERS-4 demonstrated the prototype DSS to the Deputy Chief of Naval Personnel (DEPCHNAVPERS). As a result, the DEPCHNAVPERS requested that PERS-4 purchase 452 personal computers with required local area network hardware for all enlisted and officer detailers and complete development of the GUI to implement the detailer DSS. On 20 December, the CHNAVPERS approved a \$1.8 million hardware and software buy to put a PC on every enlisted and officer detailer's desk.

Standard Personnel Measures (SPM)

Standard Personnel Measures (SPM) is a set of computer programs that determines how personnel transactions are processed into management information. The programs are being used by planners in Headquarters, Bureau of Personnel (PERS-22) (Enlisted Plans and Analysis Division) to build and maintain the Navy's force of enlisted personnel. SPM generates the official count of gains, losses, reenlistments, promotions, extensions, and other actions needed to accurately track the size and cost of the enlisted inventory. **Yuh-Ling Su**, Code 111, is the principal investigator.

¹ The Technical Director's award provides individuals and work teams immediate recognition for exemplary technical accomplishment contributing to the Center Mission. As an applied research center, NAVPERSRANDCEN's principal goal is to apply state-of-the-art technology to solve emerging problems affecting Navy and Marine Corps personnel readiness. The attainment of this goal is manifested in tangible products of operational use to Navy and Marine Corps commands. The focus of this special award is on those exemplary technical accomplishments that result in products of significant value to particular user commands.

SPM has improved the existing system by:

- ☐ Reducing the number of reporting errors (from 11,250 to 624).
- ☐ Recognizing and eliminating data errors (4,288 records).
- ☐ Correcting erroneous classification in trainee losses, reenlistments, and misconduct separations.
- ☐ Counting previously unrecognized events (423).
- ☐ Classifying events previously counted as errors (1,978).

SPM represents the first major revision of personnel reporting programs since the 1970s. Since the beginning of fiscal year 1994, SPM has been producing daily and monthly personnel information for PERS-22 to support their planning, policy, and budgeting functions.

Integrated Damage Control Training Technology

Dr. Bernard Ulozas, Dr. Eleanor Robinson, and Mr. Donald Hewitt developed an interactive readiness preparedness course for Navy Damage Control Assistants (DCAs). DCAs must provide information to the commanding officer during mass conflagration exercises, their role being critical to effective communications and responsive actions during a crisis. Sponsoring agencies included Surface Warfare Officer's School Command, Newport, RI and Afloat Training Group, San Diego.

Publications and Presentations²

Professional Publications Award

Publications recognized for significant contributions to the scientific and technical literature during 1994:

Best Overall Publication

Instructional Effectiveness of Video Media; **C. Douglas Wetzel, Paul H. Radtke, and Hervey W. Stern.**

Best Applied Science

Biodata Applications in Career Development Research and Practice; **Robert F. Morrison.**

Models for Detection of Drug Use in the U.S. Navy; **Theodore J. Thompson and James P. Boyle.**

Best Theoretical Knowledge

Cross-Task Consistency in Strategy Use and the Relationship with Intelligence; **David L. Alderton and Gerald E. Larson.**

Motivation: Cause or Confound in Information Processing/Intelligence Correlations?; **Gerald E. Larson, Dennis P. Saccuzo, and James Brown.**

Technical Reports

Baker, H. G., & Le, S. K. (1994). *Survey of Military Families Residing On Base Hawaii 1993* (NPRDC-TR-94-12). San Diego: Navy Personnel Research and Development Center. (AD-A281 244)

Baker, H. G., & Le, S. K. (1994). *Survey of Military Families Residing Off Base in Hawaii (1993)* (NPRDC-TR-94-9). San Diego: Navy Personnel Research and Development Center. (AD-A280 087)

Culbertson, A. L., Rosenfeld, P., & Newell, C. E. (1993). *Sexual Harassment in the Active-Duty Navy* (NPRDC-TR-94-2). San Diego: Navy Personnel Research and Development Center. (AD-A277 183)

Edwards, J. E., & Newell, C. E. (1994). *Navy Pattern-of-Misconduct Discharges: A Study of Potential Racial Differences* (NPRDC-TR-94-11). San Diego: Navy Personnel Research and Development Center. (AD-A281 133)

Glaser, D. N., & Dutcher, J. S. (1994). *Quality of Life: Literature Review and Recommendations for Measurement of Military Outcomes* (NPRDC-TR-94-3). San Diego: Navy Personnel Research and Development Center. (AD-A276 084)

²Unclassified, public release only.

- Held, J. D., & Johns, C. W. (1994). *Validation of Armed Services Vocational Aptitude Battery (ASVAB) Selector Composites: Boiler Technician (BT), Machinist's Mate (MM), and Engineman (EN) Ratings* (NPRDC-TR-94-5). San Diego: Navy Personnel Research and Development Center. (AD-A276 553)
- Hentschel, D. J. (1993). *Joint Specialty Officer Modeling System (JSOMS): Development, Impact, and Uses for the U.S. Navy* (NPRDC-TR-94-1). San Diego: Navy Personnel Research and Development Center. (AD-A272 028)
- Kerce, E. W., Magnusson, P., & Rudolph, A. (1994). *The Attitudes of Navy Corrections Staff Members: What They Think About Confinees and Their Jobs* (NPRDC-TR-94-7). San Diego: Navy Personnel Research and Development Center. (AD-A276 520)
- Sheposh, J. P., Dutcher, J. S., Hayashida, C. A., Arbor, H., Cooke, R., McNulty, W., St. Clair, P. C., & Trusso, P. (1994). *Experimental Civilian Personnel Office Project (EXPO): Final Report for Appropriated Fund Sites* (NPRDC-TR-94-4). San Diego: Navy Personnel Research and Development Center. (AD-A277 447)
- Stern, H. W. (1994). *Evaluation of a Tool for Producing and Presenting Interactive Videodisc Job Aids* (NPRDC-TR-94-8). San Diego: Navy Personnel Research and Development Center. (AD-A278 599)
- Thomas, P. J., Perry, Z. A., & David, K. M. (1994). *Fitness Reports of Naval Warfare Officers: A Search for Gender Differences* (NPRDC-TR-94-10). San Diego: Navy Personnel Research and Development Center. (AD-A279 954)
- Wilcove, G. L. (1994). *Quality of Life in the Navy, Findings From 1990 to 1992: The Navy-wide Personnel Survey, Volume 2: Management Report* (NPRDC-TR-94-6). San Diego: Navy Personnel Research and Development Center. (AD-A277 257)

Technical Notes

- Cowen, M. B. (1994). *Instructional Hypermedia as a Method to Train Electronic Warfare Personnel* (NPRDC-TN-94-19). San Diego: Navy Personnel Research and Development Center.
- Ellis, J. A., & Parchman, J. A. (1994). *The Interactive Multisensor Analysis Training (IMAT) System: A Formative Evaluation in the Aviation Antisubmarine Warfare Operator (AW) Class "A" School* (NPRDC-TN-94-20). San Diego: Navy Personnel Research and Development Center. (AD-A272 832)
- Folchi, J. S., Devlin, S. E., & Trent, T. (1993). *Development and Evaluation of a Compensatory Screening Model for Navy Non-High School Diploma Graduate Applicants* (NPRDC-TN-94-8). San Diego: Navy Personnel Research and Development Center.

- Hollingsworth, S. N. L. (1993). *When We Listened, This is What We Heard! (An Analysis of the Written Comments From the 1991 Navy-wide Personnel Survey)* (NPRDC-TN-94-10). San Diego: Navy Personnel Research and Development Center.
- Newell, C. E., & Thomas, P. J. (1993). *Comparison of Permanent Change of Station Costs for Women and Men Transferred Prematurely From Ships* (NPRDC-TN-94-7). San Diego: Navy Personnel Research and Development Center. (AD-A273 066)
- Quenette, M. A. (1994). *Navy-wide Personnel Survey 1993: Statistical Tables for Enlisted Personnel* (NPRDC-TN-94-16). San Diego: Navy Personnel Research and Development Center. (AD-A279 044)
- Quenette, M. A. (1994). *Navy-wide Personnel Survey 1993: Statistical Tables for Officers*. (NPRDC-TN-94-17). San Diego: Navy Personnel Research and Development Center. (AD-A279 044)
- Radtke, P. H. (1993). *An Assessment of the Statistical and Editorial Output of Text Analysis Programs* (NPRDC-TN-94-6). San Diego: Navy Personnel Research and Development Center. (AD-A272 185)
- Randel, J. M., Hewitt, D. H., & Warner, B. M. (1993). *Writing Skills Course for Newly Commissioned Marine Corps Officers* (NPRDC-TN-94-5). San Diego: Navy Personnel Research and Development Center.
- Robertson, D. W. (1993). *Navy New Recruit Survey (NRS)* (NPRDC-TN-94-9). San Diego: Navy Personnel Research and Development Center.
- Rosenfeld, P., & Culbertson, A. L. (1993). *Command Assessment Team Survey System (CATSYS): User Guide* (NPRDC-TN-94-11). San Diego: Navy Personnel Research and Development Center.
- Rudolph, A. S., Glaser, D. N., & Kerce, E. W. (1994). *Navy Correctional Custody Units: Perceptions of Navy Leaders and Analysis of Effectiveness* (NPRDC-TN-94-15). San Diego: Navy Personnel Research and Development Center. (AD-278 727)
- Schuler, J. W. (1994). *AN/SLQ-32 Operator Training: Development of Performance Assessment Instrument* (NPRDC-TN-94-13). San Diego: Navy Personnel Research and Development Center.
- Sympson, J. B. (1993). *Extracting Information From Wrong Answers in Computerized Adaptive Testing* (NPRDC-TN-94-1). San Diego: Navy Personnel Research and Development Center. (AD-A272 832)
- Sympson, J. B. (1993). *A Procedure for Linear Polychotomous Scoring of Test Items* (NPRDC-TN-94-2). San Diego: Navy Personnel Research and Development Center. (AD-A272 975)

- Sympon, J. B., & Haladyna, T. M. (1993). *An Evaluation of "Polyweighting" in Domain-Referenced Testing* (NPRDC-TN-94-3). San Diego: Navy Personnel Research and Development Center. (AD-A272 833)
- Sympon, J. B., & Davison, M. L. (1993). *Reducing Test Length With Polychotomous Scoring* (NPRDC-TN-94-4). San Diego: Navy Personnel Research and Development Center. (AD-A272 902)
- Thomas, M. D. (1994). *Utilization of Pregnant Enlisted Women Transferred Off Ships* (NPRDC-TN-94-14). San Diego: Navy Personnel Research and Development Center.
- Thompson, T. J., & Boyle, J. P. (1994). *Markov Chains for Random Urinalysis III: Daily Model and Drug Kinetics* (NPRDC-TN-94-12). San Diego: Navy Personnel Research and Development Center.
- Wilkins, C. A., & Sands, W. A. (1994). *Comparison of a Back Propagation Artificial Neural Network Model With a Linear Regression Model for Personnel Selection* (NPRDC-TN-94-18). (AD-A280 023)

Administrative Publications

- Barrineau, M. D. (1993). *Professional Publications and Presentations: Calendar Years 1992-1993* (NPRDC-AP-94-1). San Diego: Navy Personnel Research and Development Center.
- Barrineau, M. D. (1993). *Top Products: Fiscal Years 1991-1993* (NPRDC-AP-94-2). San Diego: Navy Personnel Research and Development Center.
- Barrineau, M. D. (1994). *NPRDC Personnel Roster* (NPRDC-AP-94-4). San Diego: Navy Personnel Research and Development Center.
- Stout, A. (1994). *Bibliography of Reports, Journal Articles, Books, and Book Chapters Approved for Public Release: FY93* (NPRDC-AP-94-3). San Diego: Navy Personnel Research and Development Center.
- Stout, A. (1994). *Command History—Calendar Year 1993* (NPRDC-AP-94-7). San Diego: Navy Personnel Research and Development Center.
- Thomas, E., Fendelman, C., & Montague, W. E. (Eds.). (1994). *Independent Research (IR) and Independent Exploratory Development (IED)* (NPRDC-AP-94-6). San Diego: Navy Personnel Research and Development Center.

Books and Book Chapters

- Alderton, D. L., & Larson, G. E. (1994). Dimensions of ability: Diminishing returns? In M. G. Rumsey, & C. B. Walker (Eds.), *Personnel Selection and Classification* (pp. 137-144). Hillsdale, NJ: Lawrence Erlbaum Associates.

- Edwards, J. E., & Morrison, R. F. (1994). Selecting and classifying future naval officers: The paradox of greater specialization in broader arenas. In M. G. Rumsey, & C. B. Walker (Eds.), *Personnel Selection and Classification* (pp. 69-84). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Morrison, R. F. (1994). Biodata applications in career development research and practice. In G. S. Stokes, M. D. Mumford, & W. A. Owens (Eds.), *Biodata Handbook: Theory, Research, and Use of Biographical Information in Selection and Performance Prediction* (pp. 451-484). Palo Alto, CA: C. P. P. Books.
- Wetzel, C. D., Radtke, P. H., & Stern, H. W. (1994). *Instructional Effectiveness of Video Media*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Journal Articles

- Alderton, D. L., & Larson, G. E. (1994). Cross-task consistency in strategy use and the relationship with intelligence. *Intelligence*, 18, 47-76.
- Blanco, T. A., & Hillery, R. C. (1994). A sea story: Implementing the Navy's personnel assignment system. *Operations Research*, 42(5), 814-822.
- Booth-Kewley, S., & Vickers, Jr., R. R. (1994). Associations between major domains of personality and health behavior. *Journal of Personality*, 62(3), 281-298.
- Booth-Kewley, S., Rosenfeld, P., & Edwards, J. E. (1994). Turnover among Hispanic and non-Hispanic blue-collar workers in the U.S. Navy's civilian work force. *Journal of Social Psychology*, 133, 761-768.
- Culbertson, A. L., & Rosenfeld, P. (1994). Assessment of sexual harassment in the active-duty Navy. *Military Psychology*, 6, 69-93.
- Held, J. D., & Foley, P. P. (1994). The general multivariate correction formulas: Efficacy for univariate selection situations. *Proceedings of the 35th Annual Conference of the Military Testing Association*, 686-691.
- Larson, G. E., Saccuzzo, D. P., & Brown, J. (1994). Motivation: Cause or confound in information processing/intelligence correlations? *Acta Psychologica*, 85, 25-37.
- Moranville, A., Cowen, M. B., Hewitt, D. H., & McCabe, K. I. (1994). Surface combat operator training update. *Proceedings of the 38th Annual Joint Electronic Warfare Conference*, 1, 227-239.
- Randel, J. M., Pugh, H. L., & Schuler, J. W. (1994). Cognitive skills of the electronic warfare technician. *Proceedings of the 38th Annual Joint Electronic Warfare Conference*, 1, 211-225.

- Rosenfeld, P. (1994). Effects of gender and ethnicity on Hispanic women in the U.S. Navy. *Journal of Social Psychology, 134*, 349-354.
- Rosenfeld, P., Booth-Kewley, S., Edwards, J. E., & Alderton, D. L. (1994). Linking diversity and impression management: A study of Hispanic, black, and white Navy recruits. *American Journal of Community Psychology, 21*, 672-681.
- Rosenfeld, P., & Edwards, J. E. (1994, Summer). Assessing equal opportunity climate: Integrating organization-wide and unit specific approaches. *Personnel Journal, 73*, 99-103.
- Rosenfeld, P., Giacalone, R. A., & Riordan, C. A. (1994). Impression management theory and diversity: Lessons for organizational behavior. *American Behavioral Scientist, 37*, 601-604.
- Segall, D. L. (1994). The reliability of linearly equated tests. *Psychometrika, 59*(3), 361-375.
- Semb, G. B., & Ellis, J. A. Knowledge taught in school: What is remembered? (1994). *Review of Educational Research, 64*(2), 253-286.
- Thomas, P. J. (1994). (Guest Ed.). Women in the Navy. *Military Psychology, 6*(2).
- Thomas, P. J., & Thomas, M. D. (1994). Effects of gender, marital status, and parental status on absenteeism among Navy enlisted personnel. *Military Psychology, 6*, 95-108.
- Thompson, T. J., & Boyle, J. P. (1994). Models for detection of drug use in the U.S. Navy. *Socio-Economic Planning Sciences, 28*, 9-18.

Presentations

- Cowen, M. B. (1994). *Interactive hypermedia for training electronic surveillance personnel*. Paper presented at the Proceedings of the 1994 Association for the Development of Computer-based Instruction Systems Conference, Nashville, TN.
- Federico, P-A. (1994, April). *Expert and novice conceptualizations of decision making*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Glaser, D. N., & Tatum, B. C. (1994, August). *Workload and social support: Effects on performance and strain*. Paper presented as part of a session entitled "New Directions in Stress in the Workplace," delivered at the 102nd Annual Meeting of the American Psychological Association, Los Angeles, CA.
- Tatum, B. C. (1994, April). *Gain sharing in the Federal Government*. Presentation at the Air Force Performance Management Workshop, "Reinventing Performance Management," San Antonio, TX.

- Tatum, B. C. (1994, September). *Gain sharing in a white collar environment*. Workshop presented at the Department of Defense Conference on Gain Sharing/Success Sharing, Vienna, VA.
- Thode, W. (1994, November). *Interface standards for DOD interactive courseware*. Paper presented at the 16th Interservice/Industry Training Systems and Education Conference, Orlando, FL.
- Thomas, P. J. (1994, August). *Rating the performance of women warfare officers*. Paper presented at the American Psychological Association, Los Angeles, CA.
- Thomas, P. J. (1994, December). *Surveying sexual harassment in the Navy: Trends over the past 5 years*. Paper presented at the Defense Equal Opportunity Management Institute Worldwide Conference, Patrick Air Force Base, FL.
- Wasik, J. (1994, November). *Total quality leadership in the fleet: From theory to practice*. Paper presented at the American Society of Quality Control, Rancho Mirage, CA.

Distribution List

Chief of Naval Personnel (PERS-00), (PERS-00B)
Special Assistant for Research Management (PERS-00H)
Chief of Naval Operations (Historian)
Defense Technical Information Center (DTIC) (4)